

VEHICLE ACCIDENT SEVERITY

A description of the problem and background:

Every year the lives of approximately 1.35 million people are cut short as a result of a road traffic crash. Between 20 and 50 million more people suffer non-fatal injuries, with many incurring a disability as a result of their injury.

Road traffic injuries cause considerable economic losses to individuals, their families, and to nations as a whole. These losses arise from the cost of treatment as well as lost productivity for those killed or disabled by their injuries, and for family members who need to take time off work or school to care for the injured. Road traffic crashes cost most countries 3% of their gross domestic product. (Source: <https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries>)

In high income countries, the combination of safety standards and education have made tremendous strides in automobile safety. The challenge now is to ensure the low and middle income countries which now account for 50% of new car sales and production and over 90% of road fatalities can be brought up to global minimum standards.

As much knowledge as have relating to vehicle safety, most still struggle to ensure they are doing everything necessary to guarantee their drivers are safe on the roadways and limit their exposure to crashes.

A description of the data:

The data set which will be used is the “Collisions—All Years” provided through the Applied Data Science Capstone by Coursera. They are data from SDOT Traffic Management Division.

The data consists of the information about the accidents. This includes all types of collisions from 2004 to present. The data has 194,673 rows and 38 columns. The columns are referred as the features of the dataset and every row referred in a single collision.

Our model built by features described below:

- SEVERITYCODE: specifies a particular code which corresponds to the severity of the collision:

- 2 –Injury

- 1 –Prop Damage

- VEHCOUNT: specifies the number of vehicles involved in a collision.

- JUNCTIONTYPE: specifies the category of junction at which the collision took place.

- WEATHER: specifies the weather condition at the time of collision.

- ROADCOND: specifies the condition of the road during the collision.

- LIGHTCOND: specifies the conditions of light during the collision.

I will explore the above features to discover if any of them have advanced possibilities to lead in injury when a collision occurs. Also, I'll try to build a model than can predict the severity of an accident to the people involved.